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ABSTRACT

This paper reviews the suitability at the kindergarten level of Philadelphia's new K-12 Standardized Curriculum in terms of concerns expressed by a group of Philadelphia kindergarten teachers. The teachers' objections spring from two different conceptions of early childhood education. According to one argument (rejected by the district but supported by the work of Gesell), children's developmental readiness should determine the content of the kindergarten curriculum. Opposed to this argument are arguments supporting early intervention to prepare children for learning. Such intervention can take either a formal or an experiential form. Those teachers objecting to the curriculum but supporting intervention appear concerned that the curriculum will require formal, specified instructional practices. The district claims that its direct instruction curriculum does not require formal instruction, and asserts further that the demographic characteristics of the poor urban students being served are such that the educational environment must be fundamentally different from (rather than reliant on) the home environment. This assertion is supported by Philadelphia's extensive experience with Follow Through programs. The paper concludes that it is important to work toward the best match of teacher, student, school, and instructional method. (PGD)

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A LARGE SCHOOL DISTRICT'S PERSPECTIVE ON THE STRUCTURE CONTROVERSY

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EA 019 353

Paper prepared for the AERA Symposium "Curricular Demands Appropriate for the Urban Kindergarten", Annual Meeting, Washington, D. C., April 1987

A LARGE SCHOOL DISTRICT'S PERSPECTIVE ON THE STRUCTURE CONTROVERSY

ABSTRACT

This was one of four papers presented at the 1987 AERA Symposium, ** "Curricular Demands Appropriate for the Urban Kindergarten". The symposium was initiated on the basis of concerns expressed by a group of Philadelphia kindergarten teachers that a new K-12 Standardized Curriculum imposed an inappropriate form of structure on kindergarten classrooms. Recent High/Scope findings regarding the relationship between a structured early childhood program experience (Direct Instruction) and later reported delinquency were cited by the teachers in support of their contention.

This paper, giving a large school district's perspective on structure was intended as a form of policy analysis and developed a line of argument showing that the new Standardized Curriculum did not impose a particular instructional approach, but, at the same time it argued that a highly structured model like the Direct Instruction approach is most appropriate for students who live in severe poverty conditions in large cities like Philadelphia. The paper ultimately contended, using Philadelphia's Follow Through experience as a reference point, that it is important to abandon developmental ideologies and to work instead toward a best match between teacher maturity, student background, school setting, and instructional approach.

** The other papers and their presenters were:

"What Is and Is Not Implied in the Study of Three Preschool Curriculum Models," by Lawrence J. Schweinhart of the High Scope project (Ypsilanti, Michigan);

The Bank Street Philosophy: Its Effectiveness in Large Urban Settings," by Richard H. Feldman of the Bank Street College of Education (New York, NY); and

The SEDL Bilingual Follow-Through Model as an Effective Approach to Early Childhood Education," by Preston C. Kronkosky of the Southwest Educational Development Laboratory (Austin, Texas).

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I. BACKGROUND OF THE SYMPOSIUM

The catalyst for this symposium was the concern voiced by a group of kindergarten teachers in Philadelphia who felt a new K-12 Standardized Curriculum in the city imposed an inappropriate form of structure on kindergarten children, and who cited the recent High/Scope findings regarding early structure and later reported delinquency as a strong argument in support of their position. It is the intent of this paper to develop arguments that run counter to that position, and in the process to make some distinctions that often seem to be neglected in this kind of debate. The paper is presented as a form of policy analysis which concludes in favor of high structure for large segments of the kindergarten population in big cities like Philadelphia. The analysis is based on the unique obstacles which many children face in this large urban environment and, in turn, the unique effects this has on schools and teachers as they help children overcome these obstacles.

Paper prepared for the AERA Symposium "Curricular Demands Appropriate for the Urban Kindergarten", Annual Meeting, Washington, D. C., April 1987

II. SOME NOTES ON THE SCHOOL DISTRICT OF PHILADELPHIA

A. The New Standardized Curriculum

According to the group of kindergarten teachers who expressed concern about structure, it was the new K-12 Standardized Curriculum in Philadelphia that led them to take their stand. They then seized on the High/Scope findings as supporting arguments for their position. These are not necessarily identical issues, however, as the discussion will make clear. As regards the Standardized Curriculum, the Superintendent of Schools appointed in 1982, Dr. Constance E. Clayton, had many compelling reasons for initiating this change, e.g.: 1) administrative and school staff continually indicated the need for a standardized curriculum as their top priority, 2) there was curriculum disparity across subdistricts and from school to school within subdistricts, 3) the one common factor across schools was the policy of teaching students at their functioning level, which led to increasing numbers of students operating two, three and four years below grade, for instance, in terms of reading book levels, and 4) the total unsystematic approach yielded years and years of large numbers of graduating seniors unable to read material that was beyond the elementary level. The introduction of the Standardized Curriculum in 1984 made it possible for the first time to have a well articulated program of studies K-12 in each subject matter, with specified content for each grade and the expectation that students would be accountable for grade level material in some meaningful way. The Standardized

Curriculum extended down to kindergarten and reaffirmed the city's position that kindergarten was not only to be part of the "revolution in American early child education" which Weinberg (1979) associated with the work of the "interventionists", e.g., Bloom, Bruner and Hunt, as against the thinking of those stressing the need to wait for "developmental readiness", like Gesell, but kindergarten was also to be an integral part of elementary school instruction, and to provide students with all the prerequisites necessary to function in first grade. The Standardized Curriculum, however, did not specify approach, only content, and although Philadelphia, as Spodek (1985) notes regarding a kindergarten reading program presented at the Philadelphia Exposition in 1876, has long been at the center of controversy regarding what is appropriate for kindergarten, in this case it was essentially only siding with the interventionists against the Gesellians, and in this sense, there is no basis for disagreement with High/Scope which is clearly on the interventionist side also. There is only one way the concerned kindergarten teachers could invoke the High/Scope findings in support of their position, and this is to argue that the Standardized Curriculum is not process-free but implies an approach that they - and High/Scope - find unacceptable. (It should also be noted that some of the teachers are in fact, supporters of Gesell.) This question of implication regarding process in the Standardized Curriculum will be returned to below. Some details of Philadelphia demographics, however, will help establish context for this later discussion.

B. Some Philadelphia Demographics

Specific Philadelphia demographic data can best be appreciated against a background of some national statistics. Schweinhart and Koshel (1986) provide information of the following nature:

> ...Half of all black children under the age of 6 are living in poverty, as are two out of five Hispanic children in this age-range. For the nation as a whole, one out of every four children under the age of 6 is living in poverty. The extent of poverty among young children is greater than that of any other segment of the American population, greater by far than the extent among the elderly, who have a 14 percent poverty rate.
>
> ...Teenage pregnancy alone has been estimated to cost the nation at least $17 billion per year, an amount that represents the cost of only three of the programs that support this population group - Aid to Families with Dependent Children (AFDC), Medicaid, and food stamps. (p.2)

As regards specific Philadelphia characteristics and characteristics of the School District of Philadelphia, Yancey, Goldstein and Rigsby (1986) have recently concluded a study yielding the following (based on Table 2.1, p.11):

Average Values of Demographic Characteristics of Census Tracts for the City of Philadelphia and for Residential Tracts of Public School Pupils

	Total City	Total Public School Students
Percent households with no workers	21.9%	26.5%
Percent adults with less than high school education	42.2%	48.6%
Percent households with young heads in poverty	18.4%	26.4%
Percent households in poverty	16.6%	23.9%
Percent female headed families	32.6%	40.3%

Further information is provided about a group of 75 schools (out of a total of 253 schools), the Priority One schools, which are a set of basically racially isolated, low-achieving schools forming the focus of the school improvement dimension of the School District's Modified Desegregation Plan, which attempts to provide as many direct desegregation efforts as possible, following the thinking of experts like Braddock and McPartland (1987), but has adopted a comprehensive school improvement approach for racially isolated, low-achieving schools. Some demographics for this latter group, (the Priority One schools) are as follows (adapted from Table 3.1, p. 15 of Yancey, Goldstein and Rigsby, 1986):

Socioeconomic Characteristics Based on Census Data for Priority One and Other Schools, All Schools, and the City

	All Schools	Other Than Priority One Schools	Priority One Schools	Total City
Average Monthly Rent	$150	$168	$127	$170
Percent Families, 2+ Workers	38.2%	43.1%	31.7%	42.6%
Percent Families, Head Under 65, in Poverty	26.4%	18.5%	36.8%	18.4%
Percent of Labor Force Unemployed	15.5%	12.6%	19.3%	11.4%
Percent Families Female Heads	40.3%	31.9%	51.4%	32.6%
Percent Adults Less Than High School Education	48.6%	43.3%	55.7%	42.2%
Percent Population Black in Neighborhood	52.6%	43.7%	64.3%	37.8%

As can be seen from the data in the tables we are dealing with a considerable amount of poverty level conditions in the city - and especially the School District - as a whole. There is evidently a much more severe form of poverty in the majority of the Priority One schools, and the tabular data cannot even begin to document the still more intense level of poverty many of the School District's students face, living in completely unsafe high-rises, not knowing with which member of the extended family they will be spending the night, or exactly where their next meal will come from, or how they are going to cross the lines of warring drug factions to get to school. Many of the School District of Philadelphia's students live where even the most basic of Maslow's (1954) needs are not satisfied.

In providing the demographic context outlined above, the intent is not to resurrect the "deficit model" criticized by Zigler and Berman (1983) and others. Neither are the data directed toward minimizing the cultural values of these children and their families or toward denying that intelligence is found equally among rich and poor, or toward overlooking the values and successes of many poverty level students and families (see e.g., Ginsburg and Hanson, 1986) whose outlook and achievement rival those of Asian students and families (see e.g., Shimahara, 1985). It is to make the point, however, that, as Katz (1977) notes, students living in poverty are not "deprived of stimulation", but rather "suffer from insufficient adult help in making sense out of their

rich environments" (p. 87), and, it might be added, these students live a home life that is in almost every respect foreign to the world of schools and education.

In the next section the argument will be resumed regarding what kind of approach is and is not appropriate for kindergarten.

III. APPROPRIATE KINDERGARTEN INSTRUCTION

A. Child Development Consideration

It was noted above that the teachers concerned about the Standardized Curriculum seemed to be arguing that this curriculum by its very nature was inappropriate for kindergarten. They cited High/Scope studies in support, presumably because they related their case to the negative view expressed there of the structure involved in direct instruction approach, which evidently, in their minds, underlay the Standardized Curriculum. They could also cite along these lines - and many do - Elkind's (1986) work critical of "formal education" in early childhood education:

> Young children do not learn in the same ways as older children and adults. Because the world of things, people, and language is so new to infants and young children, they learn best through direct encounters with their world rather than through formal education involving the inculcation of symbolic rules. (p. 631)

> ...As educators, our first task is to reassert this difference and insist on its importance. We have to reeducate parents, administrators, and legislators regarding what is sound education for young children... Sound early education is an extension of the home, not of the school. (p. 636)

At this point it may be well to point out that Elkind (1986) is also highly critical of the interventionist movement in education and clearly argues for Piaget as the sole wholesome guide in early childhood education. He does not speak in this same vein when discussing the Montessori method, however (Elkind, 1983). Paradoxically in the latter article he argues that Montessori methods lack "structure" in the way they approach the use of the special Montessori materials, and still more paradoxically he speaks favorably of Montessori's early insistence on children learning sight words, but claims this is inappropriate for an English-speaking setting because Italian only involves "identity" decoding - appropriate for young children, while English calls for "equivalent" decoding - not appropriate for young children.

B. The Position Taken in this Paper

At this juncture it is important to state the formal position taken in this paper regarding appropriate levels of structure and forms of intervention in kindergarten. It is maintained that: 1) the structure of a Standardized Curriculum such as introduced in Philadelphia does not imply and can be seen not to include upon examination an unacceptable framework of "formal education" in Elkind's (1986) sense and is clearly compatible with the Piagetian-based approach used by High/Scope, although this would require considerable teacher work and commitment to implement - teacher variables in carrying out intervention are discussed more thoroughly below, and 2) an approach like the Direct Instruction Model is particularly

effective for students who live in the kinds of severe poverty conditions alluded to above, because, for these conditions, it provides the most rapid and the most efficient means of creating the mental organization/reorganization necessary to function in schools.

The term "mental reorganization" used above is borrowed from Pea (1985) who contrasted it with "amplification" in the context of the potentialities of computer education. The terms are useful here in a transcribed and inverted sense to emphasize that it is useless to talk of education being an "extension of the home" when severe poverty conditions are involved because there is no educational background to amplify, and there has to be created a mental organization and quick "injection" of experience amenable to learning in a school setting. There has to be created for children coming from these conditions something resembling Vygotsky's (1978) "zone of proximal development" that would allow a bridge to be formed between the non-educational home setting and the opportunity to profit from school.

The above is not meant to limit the usefulness of approaches like Direct Instruction to the conditions described, it is to argue for the eminent usefulness of this approach in severe poverty settings. It should also be pointed out that the Direct Instruction approach tends to be identified unfairly with a "host of dark forces" "(Bereiter, 1986) rather than as a rational approach designed to help

students from poverty backgrounds, and it is often overlooked that Direct Instruction can be associated with statements like the following from Gersten and Carnine (1986):

> Some educators are concerned that teaching a step-by-step strategy will produce students who "think" in exactly the same way. An investigation...demonstrated that many students personalized the study process by omitting one of the steps they had been taught. Others integrated the new procedure...with their own ideas... Students who adapted the procedure were no less accurate. These observations demonstrate that only in the early stages of instruction need the strategy be explicit; therefore, students will adapt and modify a strategy so that it works well for them. (p. 77)

In a different, but related vein, it seems worthwhile to note that the importance of symbolic play in Piagetian approaches needs modifying in light of the preference of children who are "patterners" for logical or relational play in contrast to the "dramatists" who prefer pretend play (see McCune, 1986), and to point out that it is becoming more and more clear that Piaget's stage theory is in need of modification even in some of its major principles. The work of Nesher (1986), Chi (see ASCD, 1986) and Carey (1986) is relevant here, e.g.,

> ...many developmental psychologists now believe that the young child does <u>not</u> think differently from the adult, is <u>not</u> concrete, illogical, and so forth. Phenomena that were interpreted in terms of Piaget's stage theory are better interpreted in terms of specific alternative conceptual frameworks - novice-expert shifts and theory changes in particular domains. (Corey, 1986, p. 1129)

On the subject of "pressure", which is also widely attributed to approaches like Direct Instruction, it needs to be affirmed that the only inherent "pressure" in these models stems from an efficient structure which is not the same as the "pressure" of excessive or inappropriate demands. Individual users of these approaches may introduce "pressure", but not because of the system, but because of their excessive zeal. There is another kind of "pressure" associated with these approaches, however, and that is the "pressure" from achievement oriented parents in large city poverty areas who insist on the kind of systematic learning these approaches offer. (Note that these parents do not suffer from the "superbaby" syndrome.)

As a final statement in this section, and as a means of transition to the next set of considerations related to teaching, Hallinger and Murphy (1986) characterize their low-SES effective schools in ways that complement what was said above:

> ...The effective low-SES schools isolated themselves from environmental norms, which typically promoted failure. Their orientation was primarily internal, focusing on the implementation of a specific set of practices designed to promote student mastery of basic reading and math skills...Faced with the task of turning a school around, the principals were directive and forceful in setting high standards for students and teachers. (p. 349)

C. Some Considerations on Teaching and Instructional innovations in Large Cities

An equally important factor, along with child development considerations, in this kind of debate is the teacher variable. We have seen that a group of kindergarten teachers

precipitated the series of events that led to this symposium, but there were large numbers of other teachers who did not share the concerns of the earlier group, or who did not want to bother dealing with these issues, or thought theoretical disagreements had no real bearing on their day-to-day lives in classrooms - a wide range of reactions, in other words. And this broad response range should remind us of the many lessons we should have learned from compensatory education programs, especially Follow Through.

Philadelphia was the largest Follow Through site in the nation and had seven different models (18 schools) in operation at the height of the program during the 70s: 1) Bank Street, 2) Behavior Analysis, 3) Bilingual, 4) EDC, 5) Florida/ North Carolina Parent Education, 6) Parent Implemented, and 7) Philadelphia Process (self-sponsored). Note that it did not have the Direct Instruction or Cognitively-oriented (High/ Scope) models. Note also that the program in Philadelphia accurately reflected the major national evaluation finding that there was more site-to-site variation within model than variation between models, which was in turn a reflection of the basic implementation problems so clearly identified by Fullan (1982), Hall and Loucks (1977) and others. Its most successful (best implemented/highest achieving) model at the K-3 level during the program heyday was the highly structured Behavior Analysis approach, but the contrasting Bank Street approach showed high achievement also for a time, though this was not attributed to good implementation by the sponsor, and locally

was considered an effect related to the structure imposed by the District Reading Programs. With respect to long-term achievement effects - usually associated with prior pre-kindergarten experience or good attendance - the Behavior Analysis Model was again the most consistent over the longest period (into the Jr. High range), but there were substantial long-term effects for Bank Street and EDC - in both cases, as mentioned earlier for Bank Street - not attributed to good model implementation, but to the structure introduced by District Reading Programs. Currently there is only one nationally affiliated school in Philadelphia - a Behavior Analysis site - and the Behavior Analysis Resource Center. Most of the remaining schools, with the addition of many others, became part of locally adapted approaches - options (primarily from the Behavior Analysis and Bank Street Models), which went through several changes in form of operation, dictated by funding sources, up to the present configuration of 48 Chapter 1 funded sites called Project Success and 14 operating budget sites called the Primary Skills program. Except for five bilingual sites in Project Success, which follow a specially developed Bilingual Option, all sites use a Best Elements approach derived from the characteristics considered most successful and implementable by program staff.

A likely explanation for the Follow Through story in Philadelphia is as follows: 1) the Behavior Analysis Model succeeded because it is systematic, non-complex in implementation (as Crandall, Eiseman and Louis, 1986 note,

complexity is a deterring factor on initial contact, and only becomes an enhancing factor once the innovation has been accepted), it essentially gives teachers a script, and it immediately produces achievement (because it suits the severe poverty conditions discussed above, and, as Guskey, 1986 points out, teachers take the practical view that an innovation has to produce results before they subscribe to its underlying theory), 2) the Bank Street Model had its measure of success because it corresponded to the educational philosophy most teachers were exposed to in their teacher training institutions and the local District Reading Programs provided the teachers with a sufficient script so that they did not have to exert the extra effort needed to produce the tailor-made structure implementing this kind of approach requires, and 3) the gradual trend toward a Best Elements approach reflects a very basic characteristic of the very practical field of education (see e.g., Berliner, 1986, discussing the "pursuit of the expert (eminently wise and practical) pedagogue") which has shown over and over again a built-in tendency to experience "regression to the mean" of e.g., the essential, traditional teacher characteristics which Brophy (1986) feels should form the foundation for each teacher's development in the profession. It seems to reflect also the kind of modification in the classical "ten principles of learning" - on the basis of advances in cognitive science - which Foster (1986) describes, and to be related to our growing understanding of the stages of adult (teacher)

development stressed by Bents and Howey (1981), Sprinthall and Thies - Sprinthall (1983) and others, which clearly relates to variations in teacher needs for "scripts", to their willingness to accept and put into practice educational philosophies which demand more of them in terms of developing their own individualized curricula for each student, and their ability to cope with the immediate mental reorganization needs of students who live their lives in severe poverty.

The School District of Philadelphia's Office of Instruction, under the leadership of Associate Superintendent Leontine D. Scott, has initiated a New Teacher Induction Program which gives major emphasis to all of the above considerations, including the lessons learned from Follow Through and the more recent lessons that have emerged from the effective schools movement.

Before concluding, two recent statements based on happenings in one of the later-version NIE-sponsored Follow Through sites seem pertinent. Stallings (1987) concluded that the ultimately pessimistic results were due to the fact that "teachers were at different stages of their professional development during the years of the project" (p. 63), and Anderson (1987) summarized his perceptions as follows:

> Someone recently described a school as a "set of classrooms sharing a common parking lot", the implication being that most schools are not meaningful social units with common philosophies, goals, and instructional policies and practices. Rather, teachers work side by side with greatly differing perceptions of the educability of their students, their tolerances for misbehavior in their classrooms, and the extent to which they endorse and implement the classroom management techniques and instructional strategies to which they are exposed via staff development projects. (p. 65)

IV. CONCLUSIONS

On the basis of all the above considerations it is a reasonable conclusion that we should abandon trying to resolve educational problems by insisting on faithful adherence to far-reaching philosophical or over-arching theoretical positions and spend more time trying to make work middle range theories - with their obviously wise and practical connotation - such as aptitude-treatment interaction, matching adult levels of development and/or styles with suitable techniques and situations and so on. We seem to be very much in need of listening to Bruner (1985) that "There is no reason, save ideology and the exercise of political control, to opt for a single model of the learner" (p. 7) and Lepper and Chabay (1985) "Which students are likely to learn more effectively from one approach or another? Which students will feel more competent and efficacious after exposure to one learning environment or the other?" (p. 222)

In this light, it seems unfortunate that High/Scope moved away from its earlier conclusion (Weikart, 1981) that each diverging early childhood model could be equally effective, because this position is open to the shift away from philosophies and comprehensive theories to the matching-of-people-and-situations rationale alluded to above. In going to press, on the other hand, with its findings regarding later reported delinquency associated with previous early childhood program, and initiating the consequent controversy (e.g., Bereiter, 1986; Gersten and White, 1986; and Schweinhart and Weikart, 1986), it has reopened the so

far unresolvable ideology wars. But insofar as there is merit to High/Scope's findings - a big "if" in many ways, not the least as regards the complicated delinquency causing patterns studied by e.g., Spivack (1985) and Finn and Stott (1986) - some good for the approach recommended here might be forthcoming, i.e., the controversy may ultimately contribute to discovering which teacher should probably use which instructional approach at which stage of his/her professional development, with which students in which situations.

A statement from Powell (1986) seems a best final word:

> ...Instead of searching for the best approach to early childhood education, our energies should focus on finding the best match between child and program. (p. 66)

REFERENCES

Anderson, L. W. (1987) Staff development and instructional improvement. Educational Leadership, 44 (5) 64-65

ASCD Update (1986) Learning from research, 28(2) 2-3

Bents, R. H. and Howey, K. R. (1981) Staff development - Change in the individual. In B. Dillon-Peterson (Ed.) Staff Development/ Organization Development, Alexandria, Va.: ASCD Monograph, p. 11-36

Bereiter, C. (1986) Does Direct Instruction cause delinquency? Response to Schweinhart and Weikart. Educational Leadership, 44(3) 20-21

Berliner, D. C. In pursuit of the expert pedagogue. Educational Researcher, 15(7) 5-13

Braddock, J. H. and McPartland (1987) Social and academic consequences of school desegregation. Paper prepared for presentation at conference on "Future Designs for Educational Equity", St. Louis, MO. January, 1987

Brophy, J. (1986) Synthesizing the results of research linking teacher behavior to student achievement. AERA presentation, San Francisco, April 1986

Bruner, J. (1985) Models of the learner. Educational Researcher, 14(6) 5-8

Carey, S. (1986) Cognitive science and science education. American Psychologist, 41(10) 1123-1130

Crandall, D. P., Eiseman, J. W., and Louis, K. S. (1986) Strategic planning issues that bear on the success of school improvement efforts. Educational Administration Quarterly, 22(3) 21-53

Elkind, D. (1983) Montessori education: Abiding contributions and contemporary challenges. Young Children, 38(2) 3-10

Elkind, D. (1986) Formal education and early childhood education: An essential difference. Phi Delta Kappan, 67(9) 631-636

Finn, J. D. and Stott, M. W. R. (1986) Low achieving students in juvenile court. AERA presentation, San Francisco, April 1986

Foster, S. F. (1986) Ten principles of learning revised in accordance with cognitive psychology: With implications for teaching. Educational Psychologist, 21(3) 235-243

Fullan, M. (1982) The Meaning of Educational Change, N. Y., N. Y.: Teachers College Press

Gersten, R. and Carnine (1986) Direct instruction in reading comprehension. Educational Leadership, 43(7) 70-78

Gersten, R. and White, W. A. T. (1986) Castles in the sand: Response to Schweinhart and Weikart. Educational Leadership, 44(3) 19-20

Ginsberg, A. L. and Hanson, S. L. (1986) Values and educational success among disadvantaged students. Paper prepared under Contract #300-83-0211, U. S. Dept. of Education

Guskey, T. R. (1986) Staff development and the process of teacher change. Educational Researcher, 15(5) 5-12

Hall, G. and Loucks, S. (1977) A developmental model for determining whether the treatment is actually implemented. American Educational Research Journal, 14(3) 236-276

Hallinger, P. and Murphy, J. F. (1986) The social context of effective schools. American Journal of Education, 94(3) 328-355

Katz, L. G. (1977) Talks with Teachers: Reflections on Early Childhood Education, Wash., D. C.: NAEYC

Lepper, M. R. and Chabay, R. W. (1985) Intrinsic motivation and instruction: Conflicting views on the role of motivational processes in computer-based education. Educational Psychologist, 20(4) 217-230

Maslow, A. H. (1954) Motivation and Personality, N. Y., N. Y.: Harper and Row

McCune, L. (1986) Symbolic development in normal and atypical infants. In G. Fein and M. Rivkin (Eds.) The Young Child at play: Reviews of Research, Vol. 4, Wash., D. C.: NAEYC

Nesher, P. (1986) Learning mathematics: A cognitive perspective. American Psychologist, 41(10) 1114-1122

Pea, R. D. (1985) Beyond amplification: Using the computer to reorganize mental functioning. Educational Psychologist, 20(4) 167-182

Powell, D. R. (1986) Research in review: Effects of program models and teaching practices. Young Children, 41(6) 60-67

Schweinhart, L. J. and Koshel, J. J. (1986) Policy Options for Preschool Programs, Ypsilanti, Mich.: High/Scope Early Childhood Policy Papers, No. 5

Schweinhart, L. J. and Weikart, D. P. (1986) Schweinhart and Weikart reply. Educational Leadership, 44(3) 22

Shimahara, N. K. (1985) Japanese education and its implications for U. S. Education. Phi Delta Kappan, 66(6) 418-421

Spivack, G. (1985) Longitudinal Outcome at Age 20 in Work, Education, and Mental Health: A 17 Year longitudinal Study in a Black Inner City Sample, Phila., Pa.: Hahnemann University, Sept. 1985

Spodek, B. (1985) Early childhood education's past as prologue: Roots of contemporary concerns. Young Children, 40(5) 3-7

Sprinthall, N. A. and Thies-Sprinthall, L. (1983) The teacher as an adult learner: A cognitive-developmental view. In G. A. Griffin (Ed.) Staff Development, 82nd NSSE Yearbook, Part II, Chicago, Ill.: Univ. of Chicago Press, 13-35

Stallings, J. (1987) For whom and how long is the Hunter-based model appropriate? A response to Robbins and Wolfe. Educational Leadership, 44(5) 62-63

Vygotsky, L. S. (1978) Mind in Society, Cambridge, Mass.: Harvard Univ. Press

Weikart, D. P. (1981) Effects of different curricula in early childhood intervention. Educational Evaluation and Policy Analysis, 3(6) 25-35

Weinberg, R. A. (1979) Early childhood education and intervention: Establishing an American tradition. American Psychologist, 34(10) 912-916

Yancey, W. L., Goldstein, I. and Rigsby, L. (1986) The ecology of educational outcomes: A preliminary report. Phila., Pa.: Temple Univ. Institute for Public Policy Studies, July 1986

Zigler, E. and Berman, W. (1983) Discerning the future of early childhood intervention. American Psychologist, 38(8) 894-906